PELCO

by **Schneider** Electric

IX and IXE Series Network Camera

Sarix™ Technology
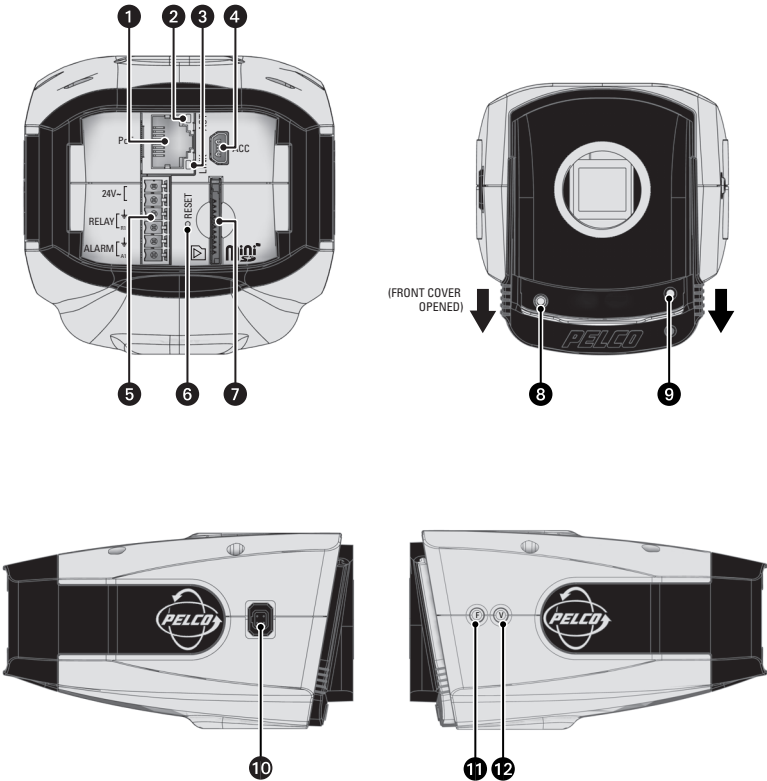
C2951M-A (2/09)

Camera Layout

Figure 1. Camera Connections and Features

❶ RJ-45 Connector: Supplies power to the camera through the network using PoE. If PoE is not available, the camera is prewired for 24 VAC.

❷ Ethernet Activity LED: Flashes green to indicate that data is being transmitted/received by the camera.

❸ Ethernet Link LED: Glows solid amber to indicate that a live connection is established.

❹ Accessory Port: Reserved for future use.

❺ 24 VAC Power, Relay, and Alarm Connections: Supports 24 VAC as the power source, one relay that can be used to control an external circuit, and one alarm for physical input into the system.

❻ Reset Button: Reboots the camera or restores the camera's factory default settings. This button is recessed. Using a small tool, such as a paper clip, press and release the reset button once to reboot the camera. Press and hold the reset button for 10 seconds to restore the camera to the factory default settings.

❼ Mini SD Card Slot: Saves a snapshot image to a mini SD card based on alarm activity.

❽ Service Connector: Outputs analog video. Use this connector at the installation site to set up the field of view and focus the camera. When a service cable is connected to the camera, video to the IP stream is disabled.

❾ Power LED: Glows solid green to indicate that the camera has power and flashes green during the boot cycle. The LED can be disabled through the user interface. If this LED glows red (solid or flashing), contact Pelco Product Support at 1-800-289-9100 (USA and Canada) or +1-559-292-1981 (International) for assistance.

❿ Auto Iris Lens Connector: Controls the auto iris lens. Insert the 4-pin connector from the DC drive auto iris lens into this connector.

⓫ Auto Back Focus Button: Sets the auto back focus mechanism. Press once to center the auto back focus mechanism and fully open the iris. Press and hold the button for three seconds to start the auto back focus mechanism and focus the camera.

⓬ NTSC/PAL Button: Toggles the service connector between NTSC and PAL formats. Press the NTSC/PAL button to toggle between NTSC and PAL formats when using the service connector. The default setting is NTSC.

NOTES:
- Pelco recommends connecting the camera to a network that uses a Dynamic Host Configuration Protocol (DHCP) server to address devices.
- Do not use a HUB in the network setup of the camera.
- To secure access to the IP camera, place the camera behind a firewall when it is connected to a network.

Installation

NOTES:

- For detailed instructions, refer to the IX Series Installation/Operation manual (C2950M) or IXE Series Installation/Operation manual (C2953M) available on the resource disc.
- Megapixel lenses are designed and tested to deliver optimal image quality to the IX Series and IXE Series megapixel cameras. A standard definition lens installed on a megapixel camera will limit the resolution of the camera and create poor image quality.

1. Install the lens:

   a. Make sure the lens does not touch the camera imager when installed.

   b. Screw the lens onto the lens mount. Be careful to prevent dust from entering the space between the lens and the imager. If necessary, use clean, compressed air to remove any foreign matter (refer to the instructions shipped with the lens).

   c. Connect the auto iris lens to the 4-pin connector located on the side of the camera. Refer to Figure 2 for pin designation and iris drive connector information.
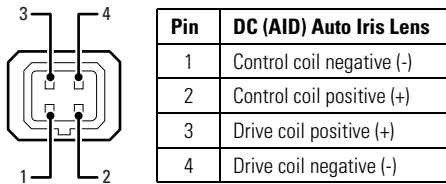
Pin	DC (AID) Auto Iris Lens
1	Control coil negative (-)
2	Control coil positive (+)
3	Drive coil positive (+)
4	Drive coil negative (-)

Figure 2. Lens Connections

2. Mount the camera in the desired location. The camera can be mounted from either the top or bottom, depending on the type of camera mount used in your installation. Use a standard 1/4-20 screw. The maximum thread depth is 0.25 inches (6.4 mm).

   NOTE: When installing inside an enclosure, mount the camera in an inverted position to allow easy access to the service connector. Use the camera software to reconfigure the camera orientation for normal operation.

3. Plug the network cable into the RJ-45 connector located at the back of the camera (refer to Figure 3).
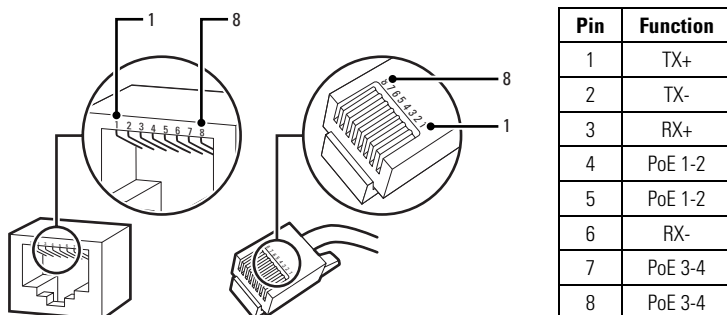

Pin	Function
1	TX+
2	TX-
3	RX+
4	PoE 1-2
5	PoE 1-2
6	RX-
7	PoE 3-4
8	PoE 3-4

Figure 3. Pin Descriptions

4. Attach the supplied ferrite to the network cable. The ferrite should be installed on the cable approximately 1 inch from the camera's RJ-45 connector.

⚠ **WARNING:** The ferrite *must be installed* for the camera to meet FCC Class B compliance standards. Failure to correctly install the ferrite might cause harmful interference to radio communications.

5. Connect the necessary wiring for alarms and relays (refer to Figure 4). Only use the 24 VAC wires if PoE is not available.
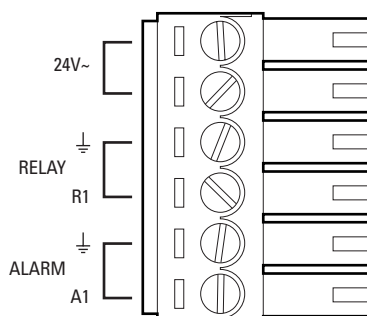

Figure 4. Alarm and Relay Wiring

6. Apply power to the camera. View the camera image using the service jack or a Web browser.

7. Focus the lens:

   a. Press the auto back focus button (located on the side of the camera) once to center the focus mechanism.

   b. Manually adjust the zoom and focus of the lens to the desired field of view (refer to the instructions shipped with the lens).

   c. Press and hold the back focus button for three seconds to make the final focus adjustments.

Operation

Once the camera is installed, apply power to the camera. The camera will start a configuration sequence. The green LED flashes five times per second for approximately two minutes, and then turns solid after the boot cycle is complete and the camera is online.

IP ADDRESS SETTINGS

If the camera is connected to a DHCP network and DHCP is set to the On position, the server will automatically assign an IP address to the device; DHCP On is the default setting for the camera. Set DHCP to the Off position to manually set the camera's IP address.

⚠ **WARNING:** If the camera is not connected to a DHCP server but DHCP is set to the On position, the IP address 192.168.0.20 on subnet mask 255.255.255.0 is automatically assigned to the camera. After the first camera is connected and assigned the default IP address, you must manually change the IP address of the camera before connecting any additional cameras. Connecting a second camera before changing the IP address of the first camera may result in a loss of communication to one or both of the devices.

NOTES:
- Contact your network administrator to avoid network conflicts before setting/changing the camera's IP address.
- If you do not know the camera's IP address, install the Pelco Device Utility software available on the resource disc shipped with the product. The utility will locate the assigned name, IP address, and MAC address for devices connected to the same virtual local area network (VLAN) as your computer. The Device Utility software is also available at *www.pelco.com/software/downloads/*.

WEB BROWSER REQUIREMENTS

To use a Web browser with the IP camera, your equipment must meet the following minimum system requirements:
- PC with Windows® XP, Windows Vista®, or Mac® OS X 10.4
    - IX Series models: Pentium® 4 microprocessor, 1.6 GHz
    - IXE Series models: Intel® Core™ 2 Duo microprocessor, 2.6 GHz
- RAM
    - IX Series models: 512 Mbyte
    - IXE Series models: 2 GB
- Ethernet Card: 100 Mbit
- Screen resolution of 1024 x 768 pixels or higher, 16- or 32-bit pixel color resolution
- Microsoft® Internet Explorer® 7 (or later) or Mozilla® Firefox® 3.0 (or later)

    NOTE: Internet Explorer is not supported by Mac OS X 10.4.
- QuickTime® 7.5 (or later)

LOGGING ON TO THE CAMERA

To log on to the camera:
1. Click Login. A login dialog box opens.
2. Type **admin** (all lowercase) in the User ID and Password boxes (admin is the default for both boxes).
3. Click Log In.

NOTE: For security purposes, be sure to change the password after you log on for the first time.

LIVE PAGE ICONS

Viewable icons are based on group permissions. The camera has two predefined groups: Public and Admin.

Public: This defined group can be modified or deleted. The default permission for this group is single stream view.

Admin: This is the only defined group that cannot be deleted; however, the administrator password can be changed. For security purposes, it is important that you change your password after you log on to the device for the first time. This group has access to all permissions.

Show Device List: Displays a list of viewable cameras connected to the same VLAN as the camera to which you are logged on.

Disable Viewer: Closes the live view window.

1 x 1 Mode: Displays a single video pane.

2 x 2 Mode: Displays 4 video panes in rows of two.

3 x 3 Mode: Displays 9 video panes in rows of three.

4 x 4 Mode: Displays 16 video panes in rows of four.

Select Stream: Selects the viewable video stream (primary or secondary) and selects unicast or multicast settings.

Maximize Viewing Area: Scales the image to the full size of the browser.

Show Toolbar: Returns the screen to normal view. This icon is only available after the screen has been set to maximize viewing area.

Open Stream in New Window: Opens the video in a scalable, independent window. Opening the video in a separate window allows you to view the video while other applications are running.

Take a Snapshot: Captures the image displayed in the video pane and saves it as a JPEG file.

SETTINGS PAGE

Depending on user permissions, the Settings page allows you to manage camera system settings, set up users and groups, and control the camera.

To access the camera settings:

1. Log on to the camera.

2. Click the Settings link in the navigation bar located in the upper-right corner of the page; a list of menu tabs appear. Place the mouse pointer over a tab to display a list of submenus.

System	Network	Imaging	Video Streams	Users and Groups	Events
	General	General	Select Preset	Users	Sources
	SSL	Exposure	Custom Configuration	Groups	Handlers
	SSH	Focus		General Settings	
		Tone Map			
		White Balance			

Figure 5. Settings Page Menus

SYSTEM TAB

The System tab displays the firmware version, device name, enables/disables the power LED, allows setup of the day and time settings, and permits event system email setup.

NETWORK TAB

Network Settings: Displays the hardware address, hostname, DHCP settings, and IP address settings.

SSL (Secure Socket Layers): Encrypts communications making it difficult for unauthorized users to intercept and view user names and passwords.

SSH (Secure Shell): Allows Pelco Product Support to log on to and service the camera for advanced troubleshooting purposes.

IMAGING TAB

General: Includes camera orientation and digital processing settings. The orientation settings allow for standard or inverted installation of the camera. The digital processing settings adjust the sharpness, saturation, and contrast of the scene.

Exposure: Adjusts scene detail and contrast. A scene with correct exposure settings has adequate detail and contrast between white and dark values. An image with too little or too much exposure eliminates detail in the scene. The camera features auto and manual exposure settings.

Focus: Includes auto back focus and manual focus settings (refer to *Focus* in the IX Series Installation/Operation manual [C2950M] or the IXE Series Installation/Operation manual [C2953M] for detailed instructions). If the camera is programmed to automatically back focus, the camera will routinely refocus when changes in the scene are detected. The camera will also run a quick autofocus sequence every three hours to adjust the center focal point of the scene. This quick autofocus sequence compensates for environmental temperature change and maintains optimal focus. If the auto back focus is turned off, the autofocus mechanism locks the camera at a user-specified position. The camera will not focus if changes in the scene occur. Manual focus is recommended only for indoor applications that have a single, unchanging primary light source.

Tone Map: Balances the brightest and darkest sections of an image to produce a picture with more balanced lighting and more detail.

White Balance: Defines how the camera processes video images to render true colors in a scene. White balance is especially effective in scenes with changing lighting conditions or in scenes with more than one type of light source.

VIDEO STREAMS TAB

Select Preset: Selects preset camera configurations, which include primary and secondary video stream settings available for easy setup.

Custom Configuration: Configures custom video stream settings. The camera features dual video streams with programmable settings for compression, resolution, and image rate. The default names for the streams are Primary and Secondary. Although each stream can be programmed independently, the settings of one stream can limit the options available for the other stream depending on the bandwidth consumed.

USERS AND GROUPS TAB

Users: Defines the permissions assigned to individuals logged on to the camera. Use this feature to create, modify, or delete user accounts.

Groups: Defines the permissions assigned to users within a group. Use this setting to create, modify, and delete groups and permissions. Multiple permissions can be assigned to each group.

General Settings: Changes the way the camera manages the users and groups settings. These settings can be managed on a camera-to-camera basis or by using a centralized server to apply changes to multiple cameras.

EVENTS TAB

Sources: Defines the camera functions that are automatically triggered by an event source. The camera supports alarm, system, and timer event sources.

Handlers: Defines the actions that a camera takes when an event occurs. The camera supports four event handlers: Send Email, Write JPEG to SD Card, Upload JPEG to FTP Server, and Open/Close Relay.

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